Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

HW#14H – Midpoint Application – Day 2

Honors Geometry

Due Date: Thursday, Sept. 26th, 2013

**GRASP! on a separate piece of graph paper. Write in complete sentences for GASP [or LaSalle!].**

1) A triangle has vertices A(0, 5), B(-3, 4) and C(1, 1). A median of a triangle is a line segment from one vertex to the midpoint of the opposite side. For example, C is a vertex and CD is the line segment that bisects AB. Find the coordinates of the midpoint D that is created by the median CD. ***Include a picture.***

2) With the given endpoints (1,-2) and (4,-4) and the midpoint being on a perpendicular bisector, what is the equation of the line that goes through the original two points, and what is the equation of the perpendicular line that goes through the midpoint?

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| Use the description of a number line below to answer questions 5 – 6. Sketch the number line below before answering the questions.  *On a number line, point W is located at 3, X is located at –5, Y is located at –16, and Z is located at 11.* | |
| 3. How much longer is *WY* than *XZ*? | 4. How much longer is *YZ* than *WX*? |
| 5. Which of the following best describes the points P, Q, and R?   1. The points P, Q, and R are collinear 2. The points P, Q, and R are non-collinear 3. The points P, Q, and R are on the plane R   Description: http://image.tutorvista.com/Qimages/QD/50323.gif   1. I only 2. II only 3. I, II, and III 4. III only | 6. Use the diagram below.    Name all the points on plane *P* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Name all the points on plane *R* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Name 3 collinear points \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Name 3 non-collinear points \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. On a number line, what is the distance in coordinate units between point *R* at 5 and *Q* at 17? | 8. Line *AB* is bisected at point *C*. Find *BC* is if *AC* = 12 cm. |
| 13. A number line has the following points: point *M* at –7, point *N* at 10, point *K* at 2, and point *H* at –3. What is the difference in length between *MN* and *KH*? | 14. Find the midpoint of and . |